

"FEE ADDRESS" INDICATION FORM

To: MAIL STOP: M Fee Correspondence
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Please recognize as the "Fee Address," under the provisions of 37 CFR 1.363, the following address:

CPA GLOBAL NORTH AMERICA LLC
2318 Mill Road
12th Floor
Alexandria, VA 22314

Payor Number: 000197

in the following listed application(s) or patent(s) for which the issue fee has been paid.

<u>Patent No.</u>	<u>Serial No.</u>	<u>Patent Date</u>	<u>Filing Date</u>	<u>Confirmation No.</u>	<u>Attorney Docket No.</u>
7,804,552	09/848,642	09/28/2010	05/03/2001	7227	SEL258

Respectfully Submitted,



Mark J. Murphy
Registration No. 34,225
Date: April 11, 2011

Husch Blackwell LLP
120 South Riverside Plaza
Suite 2200
Chicago, Illinois 60606
(312) 655-1500

Customer No: 24628



US007804552B2

(12) **United States Patent**
Yamazaki et al.

(10) **Patent No.:** **US 7,804,552 B2**
(45) **Date of Patent:** ***Sep. 28, 2010**

(54) **ELECTRO-OPTICAL DEVICE WITH LIGHT SHIELDING PORTION COMPRISING LAMINATED COLORED LAYERS, ELECTRICAL EQUIPMENT HAVING THE SAME, PORTABLE TELEPHONE HAVING THE SAME**

(75) Inventors: **Shunpei Yamazaki**, Tokyo (JP); **Yuugo Goto**, Kanagawa (JP); **Hideki Katsura**, Kanagawa (JP)

(73) Assignee: **Semiconductor Energy Laboratory Co., Ltd.** (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/848,642**

(22) Filed: **May 3, 2001**

(65) **Prior Publication Data**

US 2002/0017645 A1 Feb. 14, 2002

(30) **Foreign Application Priority Data**

May 12, 2000 (JP) 2000-140960

(51) **Int. Cl.**

G02F 1/1343 (2006.01)

G02F 1/136 (2006.01)

G02F 1/1335 (2006.01)

(52) **U.S. Cl.** **349/44; 349/43; 349/46; 349/47; 349/106; 349/110; 349/111**

(58) **Field of Classification Search** **349/44, 349/106, 110, 156, 46**

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,470,667 A *	9/1984	Okubo et al.	349/42
5,153,685 A	10/1992	Murata et al.	357/23.6
5,200,846 A	4/1993	Hiroki et al.	
5,287,205 A	2/1994	Yamazaki et al.	
5,289,016 A *	2/1994	Noguchi	257/57
5,373,377 A *	12/1994	Ogawa et al.	349/40
5,453,856 A	9/1995	Kim	
5,493,429 A *	2/1996	Kanemoto et al.	349/106

(Continued)

FOREIGN PATENT DOCUMENTS

EP 1 128 430 A2 8/2001

(Continued)

OTHER PUBLICATIONS

1) JP 10-197712 English. abstract.

(Continued)

Primary Examiner—Andrew Schechter

(74) *Attorney, Agent, or Firm*—Husch Blackwell Sanders LLP

(57) **ABSTRACT**

An object of the present invention is to provide a pixel structure capable of shielding light between a TFT and a pixel without using a light shielding mask (black matrix) in an electro-optical display device. The present invention has a feature in that, as one of means for shielding light, a lamination film consisting of two colored layers (a lamination layer of a red-colored layer and a blue-colored layer) is formed on an opposing substrate as a light shielding portion so as to overlap with a TFT formed on a device electrode.

22 Claims, 19 Drawing Sheets

